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FCC-ee Power Coupler Design Overview

Thursday 22 May 2025 08:45 (15 minutes)

The FCC-ee accelerating cavities need reliable power couplers to deliver high RF power across different operation modes. This presentation will cover the design of a 400 MHz coupler for the collider cavities, capable of delivering around 400 kW with a Qext adjustable between 9×10⁵ and 5×10⁶, for Z, W, H, and top-quark (tt) operation. It will also present the design of an 800 MHz coupler for the accelerating cavities in the tt collider and booster, providing up to 200 kW with a variable Qext. The talk will discuss the RF power requirements for each mode, ceramic window options, and Qext tuning methods.

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